

## Book reviews

**Uremia: An International Conference on Pathogenesis, Diagnosis and Therapy** Edited by Reinhold Kluthe, Geoffrey Berlyne, and Benjamin Burton. (Pp. xiii + 314; illustrated. £8.00.) Stuttgart: Georg Thieme Publishers. London: Churchill Livingstone. 1972.

In June 1971 a three-day conference on the pathogenesis, diagnosis, and therapy of uraemia was held in Freiburg, Germany. It was attended by one hundred experts, mostly from Germany but with a small sprinkling from the USA and UK. For them I am sure it was most interesting and profitable. This unfortunately is more than can be said of the Proceedings which have now been published under the somewhat misleading title of 'Uremia'. The book consists in effect of 44 original papers of differing length and quality, a small proportion of which would warrant publication in the regular scientific periodical literature where they would be more appropriate. The book is arranged in eight sections each of which contains from four to nine papers dealing with related topics such as uraemic toxins, organic system involvement, amino acid metabolism, and the practice of low-protein diets. At the end of each section there is a short verbatim report of the discussion.

It is difficult to know for whom this volume is intended. Few of the papers are sufficiently detailed for the expert nephrologist and most are too specific for the non-specialist. Presumably for as long as it is profitable to publish the proceedings of international meetings regardless of their suitability books such as this will continue to appear. To this reviewer this is insufficient reason for recommending their purchase.

VINCENT MARKS

**Microbial Differentiation** Symposium 23 of the Society for General Microbiology. Edited by J. M. Ashworth and J. E. Smith (Pp. x + 450; illustrated. £7.00.) London: Cambridge University Press. 1973.

In this symposium 'microbial differentiation' refers to the changes that occur either intracellularly in relation to cell growth and development or intercellularly in relation to the formation of

certain specialized multicellular structures. The study of cell differentiation in complex higher organisms presents many difficulties. One of the purposes of this symposium is to point out that differentiation also occurs in simple, even in unicellular, microorganisms which as well as being of intrinsic interest may serve as 'model systems' for the study of this subject.

There are 15 papers in this symposium. Four of these refer to differentiation in bacteria, the remainder to fungi and protozoa. With regard to bacteria, the connexion between DNA replication and cell division is discussed, also the intracellular changes, chiefly enzymatic, that accompany the initiation of bacterial sporogenesis. What is known of the process of activation, germination, and outgrowth of bacterial endospores, leading to vegetative cells, is described, including the biochemical intracellular changes accompanying these processes. Intercellular bacterial reactions are described as they occur in the formation of 'fruiting bodies' by myxobacteria.

Other papers discuss differentiation between substrate and aerial spore-forming mycelium in actinomycetes, specialized cells (akinetes and heterocysts) in blue-green algae, ascospore formation in yeasts, the special properties of hyphal tips leading to apical growth of fungal hyphae, the sequence of changes involving sexual reproduction in *Mucorales* and vegetative growth and asexual reproduction in *Aspergillus*, changes occurring during the life cycle of trypanosomes, and differentiation during the life cycles of myxomycetes and cellular slime moulds. In each case morphological and associated intracellular biochemical changes are described. This review of current progress should prove of much interest to workers in this field.

W. J. RYAN

**Basic Clinical Bacteriology** by J. D. Jarvis (Pp. viii + 159; illustrated. £1.95.) London: The Butterworth Group. 1973.

This monograph is in two parts, the first of which is devoted to 'The specimen' and has appeared before in the Laboratory Aid Series. This section will be of great value to nurses and clinicians and to laboratory workers whose early training is more academic than it was formerly.

One feels that it is written by a worker who has met every snag in the business of clinical bacteriology. It describes what specimens should be taken, when they should be taken, and how they should be sent. Reasons are given for the advice and there is a brief note on the species which may be isolated from each type of specimen.

The second section is devoted to bacteriological techniques and the chapters are necessarily very brief. Some knowledge of basic bacterial chemistry and immunology is therefore necessary if the reader is to appreciate the reasons behind the various tests.

Chapter headings are rather misleading. 'Cultural characteristics', for instance, consists of an account of the basic media used in clinical bacteriology but media for the isolation of *Mycobacteria* sp are not included.

The technique for performing the primary biochemical tests for species identification is described and there are four tables to illustrate the use of these tests. The serological section has some useful tips for making dilution series. There are brief sections on antibiotic testing, animal inoculation, and quality control of media.

The advice given throughout this small book is sound and practical. The wisdom of carrying out sugar estimations on the supernatant fluid of CSFs rather than insisting on a fluoride specimen is one of the few points with which the reviewer would disagree.

This is a paperback with clear type and good illustrations. References to important papers are at the end of the text and the book is excellent value at £1.95.

M. P. JEVONS

**Fixation in Histochemistry** Edited by P. J. Stoward. Foreword by A. G. E. Pearse. (Pp. xiii + 201; illustrated. £5.00.) London: Chapman and Hall. 1973.

This volume represents a collection of papers given at a symposium entitled 'Improvements in fixation and tissue preservation' which was held in Oxford in April 1972. Much of the material has already been published in the *Histochemical Journal*. It is essentially a book for the specialist but the collection of these communications into one volume will provide a valuable addition to the pathology library. As Professor Pearse

says in his introduction, there is 'much food for thought'. How many pathologists realize that some fixatives used for electron microscope work remove 'up to 60% of the material originally present in the specimen and convert the remainder into chemically inert products'? The practising pathologist may be forgiven if he is bewildered by much of the technical data given in this book but salvation is at hand in the final chapter by Professor I. M. P. Dawson entitled 'Fixation, What should the pathologist do?'

M. S. DUNNILL

**Practical Histochemistry** By J. Chayen, L. Bitensky, and R. Butcher. (Pp. xiii + 271; illustrated. £3.95.) New York and London: John Wiley and Sons Ltd. 1973.

This book provides an admirable introduction to histochemical techniques. It makes no attempt to be an exhaustive text but concentrates on a few methods, extensively tested and criticized by the authors, which are explained in detailed but simple terms. The chapter on enzyme methods using cryostat sections is particularly good. There is a useful but not extensive list of references. The appendices are excellent and cover (i) the effect of fixation on enzymes, (ii) a list of chemicals used together with the names and addresses of suppliers, (iii) buffers, and (iv) a note on safety. The book represents good value for money to any trainee pathologist or technician.

M. S. DUNNILL

**Practical Clinical Enzymology and Biochemical Profiling** By Paul Wolf, Dorothy Williams, and Elisabeth Von der Muehl. (Pp. 580; illustrated. £7.75.) Chichester: John Wiley and Sons Ltd. 1973.

This book really consists of three sections. The first contains 25 methods of enzyme estimation and three enzymic techniques for the estimation of glucose, triglycerides, and uric acid respectively. Although the methods given are relatively commonly used, and presumably form part of the repertoire of the clinical laboratory of Stanford University Hospital, they are not necessarily the best available. The methodology of clinical enzymology still remains very much a personal choice and until recommendations are made with regard to standardized procedures, one cannot

consider the methods described as being the best.

The second section deals fairly fully, but not very critically, with the clinical interpretations of enzyme assays as well as their application in a number of clinical situations. These include neoplastic disease, obstetric and gynaecological practice, liver disease, pancreatic and salivary gland disease, reticulo-endothelial diseases, lung and heart disease, central nervous system disease, the effects of surgery, genito-urinary tract disease, bone disease, and skeletal muscle disease. The paediatric age group is also discussed, as well as enzyme abnormalities in body fluids, and enzyme histochemistry and its clinical applications. This section includes a number of quite unnecessary black and white illustrations which are frequently meaningless. One rather amusing example is a black and white picture demonstrating the occurrence of green plasma from a female donor taking oral contraceptive tablets.

The third section deals with a variety of profiles obtained by the use of an AutoAnalyzer 6/60 and an AutoAnalyzer 12/60, of the usual determinations for which these two instruments are employed. These are to be used for computer diagnosis. All the charts are faithfully reproduced including the misprint which gives the plasma uric acid in gm% where it ought to be mg%. To anyone with clinical experience, virtually each of these patterns would appear somewhat unreliable. For example, the pattern for hyperparathyroidism is shown as including a very much raised serum total calcium and an increased alkaline phosphatase. The poor computer would not be able to diagnose this disease in many of its commoner clinical presentations. It is a pity that the authors do not seem to appreciate that the laboratory does not make firm diagnoses; it can only provide important physical signs to be used in conjunction with the history, clinical examination, and other investigations. It is a good idea to have printed on the AutoAnalyzer charts those conditions which tend to give high or low values for each estimation. A useful part of this book are those few printed pages which indicate the commoner causes for high and low values of each of the 18 analyses.

In the reviewer's opinion, the book would have been much improved by omission of the biochemical profiles and the price would certainly have been more

reasonable. The enzymology is, however, sufficiently clinically orientated to be of some use to the clinical pathologist.

A. L. LATNER

**Neurohumoral and Metabolic Aspects of Injury** (*Advances in Experimental Medicine and Biology*, Vol. 33). Edited by A. G. S. Kovách, H. B. Stoner, and J. J. Spitz. (Pp. xix + 666; illustrated. \$37.50.) New York and London: Plenum Publishing Corporation. 1973.

This volume records the proceedings of an international conference in Budapest in August 1971 on certain general body reactions to haemorrhage and trauma, reflecting the growing interest in traumatic pathology. The main topics were organ blood flow, fluid transfer, humoral reactions, metabolic effects, neural regulation, resistance, and adaptation. The general standard of the papers is high and the reviewer's main criticism is that none of the reports deal with injured man. A major growing point emerging is the central role of the hypothalamus in controlling and modifying various body reactions to injury. Those concerned with trauma and burns will be specially interested in this volume, but there are papers for a wider medical-scientific audience including pathologists. The book should be available in many medical libraries.

S. SEVITT

**Haemopoietic Stem Cells** Ciba Foundation Symposium 13 (New Series) held in tribute to J. M. Yoffey. Edited by G. E. W. Wolstenholme and Maeve O'Connor. (Pp. x + 345; illustrated. Df.44.00; approx. \$16.95.) Amsterdam, London, and New York: Elsevier/Excerpta Medica/North-Holland. Associated Scientific Publishers. 1973.

This book of 13 papers by various authors attempts to describe some of the properties of the haemopoietic stem cell. This is an elusive entity, about which there are more theories than certainties and this is therefore, a collection of ideas, not facts. It should not be considered a reference work on the haemopoietic stem cell, or even representative of majority opinion.

Stem cell morphology is discussed at some length, although the desirability of forcing an essentially functional cell

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